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ROBERT A. BILOTT
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January 3, 2018

Craig Butler, Director
Ohio EPA
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

Re: Perfluorochemical Drinking Water Issues

Dear Director Butler:

Please let us know if and when we might expect any response to our letter of November 28, 2017(extra copy enclosed).

Thank you.

Sincerely yours,

Robert A. Bilott

Encl.

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November 28, 2017

Craig Butler, Director
Ohio EPA
50 West Town Street, Suite 700
P.O. Box 1049
Columbus, OH 43216-1049

Re: Perfluorochemical Drinking Water Issues

Dear Director Butler:

On July 31, 2017, we sent a letter to your Agency raising some concerns and requesting information regarding potential perfluorochemical drinking water contamination issues in Ohio, including issues relating to PFOA/PFOS detections near Wright-Patterson Air Force Base ("WPAFB") and the potential for GenX contamination arising from operations at the DuPont/Chemours Washington Works facility in Wood County, West Virginia ("WW Plant").

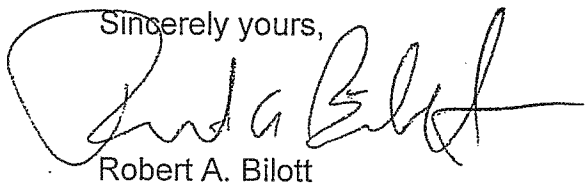
On October 13, 2017, you provided some responsive information regarding on-going investigatory activities associated with detections of PFOA/PFOS near WPAFB and summarized Ohio EPA's current position with respect to GenX. There have been some recent developments with respect to each of these contaminants that we ask Ohio EPA to consider.

First, with respect to PFOA and PFOS, recent scientific data indicates that drinking water guidelines and standards for these chemicals should be much lower than currently recommended by US EPA. For example, the New Jersey Drinking Water Quality Institute recently reviewed the scientific literature on both chemicals and recommended much lower standards of 0.014 ppb for PFOA and 0.013 ppb for PFOS in drinking water. We request that Ohio EPA take immediate steps to insure that Ohio residents are not being exposed to any higher levels of these chemicals in their drinking water.

Second, with respect to GenX, extensive regulatory and enforcement activities are underway in North Carolina to investigate and assess the impact of GenX releases and emissions into the air and area water bodies, which has caused contamination of local drinking water supplies. Efforts also have also been taken to begin developing drinking water guidelines for GenX. Given the possibility that similar/related materials are shipped from North Carolina to the WW Plant where the material could also be released into the air or water, we again request that Ohio EPA take action to promptly investigate and assess the potential impact of those emissions across the river in Ohio. To date, we are unaware of the State of West Virginia doing anything to investigate the potential impact of these emissions. (*See* attached letter to WVDEP.)

Thank you.

Sincerely yours,



Robert A. Bilott

Encl.

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November 28, 2017

BY EMAIL AND REGULAR U.S. MAIL

Scott G. Mandirola
Director
Division of Water and Waste Management
WVDEP
601 57th Street, SE
Charleston, WV 25304-2345

Re: Request For Information/Action Relating to GenX Materials Used at and Released From DuPont's/Chemours' Washington Works Facility in Wood County, West Virginia (NPDES Permit WV0001279/Consent Order No. 7418)

Dear Director Mandirola:

On July 28, 2017, we sent a letter to your Agency requesting information regarding the use and release of GenX materials from the referenced facility in Wood County, West Virginia. After receiving no response, we sent a follow-up email on August 11, 2017. After receiving no response to that email, we sent a follow-up letter on August 28, 2017.

On September 25, 2017, we received a letter from you (dated September 19, 2017) acknowledging receipt of our inquiries, and stating that you "have engaged the US EPA and instructed [your] staff that are involved ... to begin to compile answers to the questions [we] raise, to the extent we have knowledge or information." You also indicated that you would be "responding to [my] questions as soon as we can gather the requested information."

It has now been another two months and we have heard nothing further from anyone at your Agency with respect to any of the issues we first raised over four months ago. In the meantime, as you are most likely aware, GenX releases and emissions into the environment have been the focus of considerable regulatory and enforcement activity in North Carolina. Extensive activities are underway to investigate and assess

the impact of GenX releases and emissions into the air and area water bodies, which has caused contamination of local drinking water supplies in North Carolina.

It is our understanding that at least some of the GenX materials at issue in North Carolina may be shipped to or used at the Washington Works plant in West Virginia, where there could also be air and water emissions. Although we requested months ago that your Agency clarify what it is doing to thoroughly investigate and assess the impact of any such environmental releases from (and possible associated consent order violations at) the Washington Works plant, no such information has been provided.

Once again, we request that WVDEP answer the questions we posed in our prior correspondence and clarify what actions it has taken and plans to take to investigate the extent to which the community outside the Washington Works plant in Wood County, West Virginia, has been exposed to GenX, and the steps that will be taken to address and abate any potential threat to human health or the environment posed by such exposure.

Also, we ask that WVDEP take action to adopt drinking water standards for PFOA and PFOS that are more in line with the most recent scientific information on these chemicals. The State of New Jersey's Drinking Water Quality Institute recently reviewed the more current literature and has now recommended a 0.014 ppb standard for PFOA in drinking water and a 0.013 ppb standard for PFOS in drinking water. (*See* attachments).

Thank you.

Very truly yours,

Robert A. Bilott

cc: Mary B. Coe, Esq. (US EPA Region III Regional Counsel) (w/attachs)

Maximum Contaminant Level Recommendation for Perfluorooctanoic Acid in Drinking Water

Basis and Background

New Jersey Drinking Water Quality Institute

March 15, 2017

Executive Summary

The New Jersey Drinking Water Quality Institute (the Institute) was established by the 1984 amendments to the New Jersey Safe Drinking Water Act (SDWA) at N.J.S.A. 58:12A- 20. It is charged with developing standards (Maximum Contaminant Levels; MCLs) for hazardous contaminants in drinking water and for recommending those standards to the New Jersey Department of Environmental Protection (NJDEP). In 2014, New Jersey Department of Environmental Protection Commissioner Bob Martin requested that the Institute recommend MCLs for perfluorooctanoic acid (PFOA) and two other long-chain perfluorinated compounds (PFCs), perfluorononanoic acid (PFNA) and perfluorooctanesulfonic acid (PFOS). The Institute recommended an MCL for PFNA on July 1, 2015, and it now recommends an MCL for PFOA herein.

Three subcommittees are established within the Institute to address the essential considerations for development of MCLs as outlined in the New Jersey SDWA. The Health Effects Subcommittee is responsible for recommending health-based levels (Health-based MCLs) for contaminants of concern, the Testing Subcommittee is responsible for evaluating and recommending appropriate analytical methods and developing Practical Quantitation Levels (PQLs; the levels to which a contaminant can be reliably measured by drinking water laboratories), and the Treatment Subcommittee is responsible for evaluating best available treatment technologies for removal of the contaminants of concern from drinking water.

The three Institute subcommittees have reviewed the available scientific information relevant to the health effects, analytical methods, and treatment options associated with PFOA. Detailed documents presenting the technical basis for each of the subcommittee's recommendation are attached in Appendices A, B, and C.

Also attached is an additional document presenting the Health Effects Subcommittee's response to technical public comments. As the Drinking Water Quality Institute (DWQI) serves as an advisory body which makes recommendations to the NJDEP and DWQI's recommendation is not a rulemaking that is subject to the requirements of the Administrative Procedure Act, a formal response to public comments received on draft subcommittee documents is not required. However, the subcommittee wanted an opportunity to address public comments in more detail than a presentation would allow, in order to provide clarification with respect to its draft document and to address any changes made to the draft document based on those comments when appropriate.

The Health Effects Subcommittee used a risk assessment approach intended to protect for chronic drinking water exposure to develop a Health-based MCL of 14 ng/L (0.014 µg/L), and the Testing Subcommittee developed an analytical PQL of 6 ng/L (0.006 µg/L). The Treatment Subcommittee recommended that granular activated carbon or an equally efficient treatment removal technology can be used when PFOA is detected above the recommended MCL, subject to on-site pilot testing performance results, and concluded that the availability of treatment options is not anticipated to be a limiting factor in the development of a recommended MCL for PFOA or the other two PFCs (PFNA and PFOS) that have been, or will be, evaluated by the Institute. An additional benefit of the treatment technologies used to remove PFOA is that they also remove other synthetic organic chemicals, natural organic compounds, and other compounds affecting taste and odor that may be present.

Since neither treatment removal nor analytical methods are limiting factors for achieving the Health-based MCL of 14 ng/L (0.014 µg/L), the Institute recommends an MCL for PFOA of 14 ng/L (0.014 µg/L) to the Department as both health protective and technically feasible.

PUBLIC REVIEW DRAFT

HEALTH-BASED MAXIMUM CONTAMINANT LEVEL SUPPORT DOCUMENT: PERFLUOROOCTANE SULFONATE (PFOS)

(CAS #: 1763-23-1; Chemical Formula: $C_8HF_{17}O_3S$)

New Jersey Drinking Water Quality Institute
Health Effects Subcommittee
November 15, 2017

Subcommittee Members:
Jessie A. Gleason, M.S.P.H., Chair
Keith R. Cooper, Ph.D.
Judith B. Klotz, M.S., Dr.P.H.
Gloria B. Post, Ph.D., D.A.B.T.
George Van Orden, Ph.D.

ABSTRACT

A Health-based Maximum Contaminant Level (Health-based MCL) for perfluorooctane sulfonate (PFOS) was developed using a risk assessment approach intended to protect for chronic (lifetime) drinking water exposure. A public health-protective approach in developing a Health-based MCL based on animal toxicology data is supported by epidemiological associations of PFOS with health effects in the general population, as well as its biological persistence and bioaccumulation from drinking water in humans. Both non-carcinogenic and carcinogenic effects were evaluated for Health-based MCL development. PFOS causes a number of different types of toxicological effects in animals including hepatic, endocrine, developmental, immune system toxicity, and hepatocellular and thyroid tumors. The most sensitive non-cancer effect with data needed for Health-based MCL development was identified as immune suppression, specifically, a decrease in antibody response to an exogenous antigen challenge (i.e., plaque-forming cell response) following 60 days of PFOS exposure in adult male mice (Dong et al., 2009). Use of Dong et al. (2009) as the quantitative basis for the Health-based MCL is supported by decreased plaque-forming cell response in mice in other studies and by the association of PFOS with decreased vaccine response in humans within the general population. A Target Human Serum Level (analogous to a Reference Dose but on a serum level basis) of 23 ng/ml was developed by applying a total uncertainty factor of 30 to the PFOS serum level, 674 ng/ml, at the No Observed Adverse Effect Level (NOAEL) in Dong et al. (2009). A clearance factor (8.1×10^{-5} L/kg/day) which relates serum PFOS concentrations to human external PFOS doses was applied to the Target Human Serum Level to develop a Reference Dose of 1.8 ng/kg/day. Default values for drinking water exposure assumptions (2 L/day water consumption; 70 kg body weight) and Relative Source Contribution factor (20%) were used to develop a Health-based MCL of 13 ng/L. PFOS caused liver and thyroid tumors in a chronic rat study and was characterized as having "suggestive evidence of carcinogenic potential," consistent with the conclusion of USEPA Office of Water. Cancer risk was estimated based on dose-response modeling of liver tumors in female rats. It was concluded that the cancer risk assessment is too uncertain for use as the basis of the Health-based MCL. However, the estimated cancer risk at the Health-based MCL of 13 ng/L is close to the New Jersey cancer risk goal of one in one million. The Health-based MCL of 13 ng/L based on immune system toxicity is therefore considered to be both scientifically appropriate and health protective.